

# Multimedia Encryption, Transmission and Authentication

Edited by

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# **Chapter 31**

## **REAL-TIME MPEG-4 TRANSMISSION OVER WIRELESS LAN**

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### **31.1. Introduction**

In the last few years Wireless Local Area Networks (WLAN's) have become very popular, especially IEEE802.11 standard (IEEE802.11, 1999), which became almost standard network equipment in every household or company premises. IEEE802.11 standards are mostly used as extension to Ethernet (IEEE 802.3), which used as backbone part of LAN networks. However, WLAN can also be used as an alternative to wired LAN in case that physical interconnection is not possible. With introduction of new multimedia contents, including streaming of high quality audio/video signal over IP networks and the emergence of internet TV services have put huge demands on bandwidth, which has to be provided to end user.

Wireless systems based on IEEE802.11 technology became very affordable today, and allow end-users to connect to the network without cables. As most of multimedia devices have IEEE802.11 interface cards already built-in, or it can be added at very low cost, it seems that we have technology that fulfils our needs. Unfortunately these sounds too good to be true, 802.11b standard, with maximum physical data rate of 11 Mbps should be able to support Standard Definition (SD) MPEG-4 (Moving Picture Experts Group) encoded video stream, while faster 802.11g/a networks (with 54 Mbps) support High Definition (HD) video stream. There is also relatively new standard, which is not officially released yet (only in draft version), IEEE802.11n, with theoretical maximal throughput of 300 Mbps, but we are not evaluating this one, as it's not as popular as IEEE802.11a/b/g yet.